Announcement

• The 6th board meeting has been held on December 10, 2011 at College of Public Health, National Taiwan University, Taipei.

• In 6th board meeting, there are 29 new members become TAAR permanent members. Welcome to join us!

We would like to invite all of the members to share your research or new aerosol knowledge with us. Thank you very much for your support and help.

Best wishes to you and your family!

TAAR Newsletter is a quarterly publication by the Taiwan Association for Aerosol Research

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Current Position: Assistant Professor, Institute of Environmental Engineering, National Sun Yat-sen University (NSYSU).
Chief, Operation Center of Industry and University Cooperation, NSYSU
Chief, Engineering Technology Research & Promotion Center, NSYSU

Education: Ph.D., Department of Environmental Engineering, National Cheng Kung University, Taiwan
Postdoctoral researcher, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign (UIUC), USA.

Research topics: Bio-fuel, Bye-sensitized solar cells, Hydrogen energy, Energy-saving technologies, Solid waste reduction and reuse, Air toxicology, Environmental hormone

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I was born in a highly polluted city, Kaohsiung, in 1976. It is why I chose Department of Environmental Engineering, NCKU. I wish I can use what I learned to save my home county. I received the B.S. and M.S. degree from NCKU, in 1999 and 2001, respectively. After I worked for 2 year, I felt what I had learned is not enough. So I went back to NCKU in 2003 and received the Ph.D. degree in 2006. My Ph.D. thesis focuses on biofuels, emulsified fuels, and energy-saving technologies. During the Ph.D. period, I got the funding from 「Graduate Students Study Abroad Program」 by National Science Council to do research at Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign (UIUC), USA. After graduated, I was a postdoctoral researcher at the University of Illinois at Urbana-Champaign (UIUC), USA from 2006 to 2007 and focused on reducing NOx emissions from biodiesel-fueled engine. From 2007 to 2008, I served as an adjunct assistant professor at Department of Chemical and Materials Engineering, and a postdoctoral researcher at the Super Micro Mass Research and Technology Center, Cheng Shiu University and focused on research into dioxins and heavy metals. From Aug 2008, I work as an assistant professor at Institute of Environmental Engineering, National Sun Yat-sen University.
Research and teaching are my favorites because I can teach all I know to student and use the research results on industries. In order to increase the skills of teaching and research, I always participate in sessions for research and study. Therefore, I can learn a lot from outstanding scholars. Presently, my courses include Renewable Energy Technology, Energy Engineering and Management, Energy and Environment, Sustainable Environment Planning, Environment Strategy and Legislation, Environment Decision Making and Management. I am mainly interested in bio-fuel, dye-sensitized solar cells, hydrogen energy, energy-saving technology, solid waste reduction and reuse, air toxicology, and environmental hormone. Now, I am editorial board members of Journal Energy Science and Technology, and ISRN Renewable Energy. Papers are welcomed to be submitted to above two journal papers. I am also committee members of Academy of Promoting Economic Legislation, Kaohsiung Civil Servant Citizen Watch, Pingtung Air Pollution Control, and Appraising Public Nuisances of Taiwan EPA. In leisure time, I like to travel. My dreams are around the World and space travel. Finally, I would like to deeply appreciate supports from teachers, friends, and families and the committees of Taiwan Association for Aerosol Research. Welcome to join us.
Title: Nanoethics and Nanotoxicology
Editor: Philippe Houdy, Marcel Lahmani, Francelyne Marano
Hardcover: 63 pages
Publisher: Springer; 1st Edition. edition (October 28, 2011)
Language: English
ISBN-10: 3642201768

Description:
Nanobiotechnology is a fast developing field of research and application in many domains such as in medicine, pharmacy, cosmetics and agro-industry. The book addresses the lastest fundamental results on nanotoxicology and nanoethics, and the enormous range of potential applications in the fields of medical diagnostics, nanomedicine, and food and water administration. Nanoscale objects have properties leading to specific kinds of behaviour, sometimes exacerbating their chemical reactivity, physical behaviour, or potential to penetrate deeply within living organisms. Hence it is important to ensure the responsible and safe development of nanomaterials and nanotechnologies. This fourth volume in the Nanoscience series should make its mark, by presenting the state of the art in the fields of nanotoxicology and nanoethics. This is the first book to combine both scientific knowledge and ethical and social recommendations. It also presents specific policies on nanotechnologies set up by national and international authorities. This book is of interest to engineers, researchers, and graduate students.

Editorial Reviews:
From the Back Cover
Nanobiotechnology is a fast developing field of research and application in many domains such as in medicine, pharmacy, cosmetics and agro-industry. The book addresses the lastest fundamental results on nanotoxicology and nanoethics, and the enormous range of potential applications in the fields of medical diagnostics, nanomedicine, and food and water administration. Nanoscale objects have properties leading to specific kinds of behaviour, sometimes exacerbating their chemical reactivity, physical behaviour, or potential to penetrate deeply within living organisms. Hence it is important to ensure the responsible and safe development of nanomaterials and nanotechnologies. This fourth volume in the Nanoscience series should make its mark, by presenting the state of the art in the fields of nanotoxicology and nanoethics. This is the first book to combine both scientific knowledge and ethical and social recommendations. It also presents specific policies on nanotechnologies set up by national and international authorities. This book is of interest to engineers, researchers, and graduate students.

Title: Retrospective simulations of ozone and aerosols utilizing the improved model inputs from global model, in-situ and satellite measurements
Author: Daegyun Lee
Hardcover: 154 pages
Publisher: ProQuest, UMI Dissertation Publishing (September 7, 2011)
Language: English
ISBN-10: 1243666625

Reference Source: www.amazon.com
Description:

Air pollution has been a serious problem in many big cities around the world. Air quality in Eastern Texas over the Dallas-Fort Worth and Houston-Galveston areas has been considered among the worst in the United States. Air quality models, such as U.S. EPA’s CMAQ, represent the complex physical and chemical processes in the atmosphere affecting air quality such as ozone, particulate matter, regional haze, acid deposition, and air toxins. These models are used to understand the causal relations of various air quality problems affecting human health and to develop air quality management strategies to mitigate their harmful effects. The essential inputs for air quality simulation are meteorological data, emissions data, and initial and boundary conditions of pollutants. One of the fundamental issues in the air quality modeling is related to these model inputs, because the models cannot simulate air quality accurately if these input data are not appropriate and reliable. The goal of this study is to improve air quality predictions by utilizing more reliable model inputs. We focus on three distinctive research areas: (1) improvement of boundary conditions for air quality models with RAQMS global chemistry model outputs incorporating in-situ and satellite measurements, (2) assessment of impacts of utilizing retrospective meteorological and emissions inputs on CMAQ predictions, and (3) evaluation of CMAQ aerosol predictions with MODIS satellite-derived aerosol optical depth (AOD). Benefits of using satellite-data assimilated global scale RAQMS boundary conditions for the regional CMAQ predictions were verified with various measurement data over the conterminous US (CONUS) domain. To quantify impacts of emissions uncertainty on the predictability of the air quality in the HGB domain, several simulations were performed with forecast and improved meteorological inputs and using different emission inventories. We also investigated ways to improve air quality predictions from an air quality model which lacks proper event-based emission inputs (such as wildland fires) and dynamic boundary conditions representing real-life long-range transport of pollutants. It is shown that use of the aerosol initial conditions adjusted by AOD can help to improve PM2.5 simulations although further refinements of the vertical distribution of aerosols are critically needed.

Title: Climate Change in the Polar Regions
Author: John Turner, Gareth J. Marshall
Hardcover: 448 pages
Publisher: Cambridge University Press; 1 edition (June 20, 2011)
Language: English
ISBN-10: 052185010X

Description:

Nanobiotechnology is a fast developing field of research and application in many domains such as in medicine, pharmacy, cosmetics and agro-industry. The book addresses the lastest fundamental results on nanotoxicology and nanoethics, and the enormous range of potential applications in the fields of medical diagnostics, nanomedicine, and food and water administration. Nanoscale objects have properties leading to specific kinds of behaviour, sometimes exacerbating their chemical reactivity, physical behaviour, or potential to penetrate deeply within living organisms. Hence it is important to ensure the responsible and safe development of nanomaterials and nanotechnologies. This fourth volume in the Nanoscience series should make its mark, by presenting the state of the art in the fields of nanotoxicology and nanoethics. This is the first book to combine both scientific knowledge and ethical and social recommendations. It also presents specific policies on nanotechnologies set up by national and international authorities. This book is of interest to engineers, researchers, and graduate.

Editor: Lev S. Ruzer, Naomi H. Harley

Hardcover: 800 pages

Publisher: CRC Press; 2 edition (May 15, 2012)

Language: English

ISBN-10: 1439855102


Description:

The need to correlate aerosols exposure with biological effects has become especially important due to rapid development of a new and revolutionary industry--nanotechnology. This book provides a compilation of information useful to an aerosol scientist, particularly for use or identification of radioactive aerosols. The second edition includes new data on measurement; dosimetry and health effects of ultrafine, industrial, medical, and pharmaceutical bioaerosols; radioactive aerosols; breathing zone exposure assessments; modeling depositions of inhaled particles; and health effects of aerosols in general. It emphasizes the human response to pollution. Every chapter has been revised to reflect new data.
# Calendar of Events

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<th>Conference Schedule</th>
<th>Name of Conference</th>
<th>Location</th>
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<tr>
<td>March 19-23, 2012</td>
<td>8th International Conference on Air Quality - Science and Application</td>
<td>Athens, Greece</td>
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<tr>
<td>March 28-30, 2012</td>
<td>第九屆海峽兩岸氣溶膠技術研討會暨第二屆海峽兩岸環境保護雙門論壇</td>
<td>福建省廈門市</td>
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<tr>
<td>October 8-12, 2012</td>
<td>AAAR 31th Annual Conference</td>
<td>Minneapolis, Minnesota, USA</td>
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<td>September 30-October 4, 2013</td>
<td>AAAR 32nd Annual Conference</td>
<td>Portland, Oregon, USA</td>
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